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A COMPARATIVE VIEW *of* METEOROLOGICAL OBSERVATIONS *made in* IRELAND *ſince the Year* 1788; *with ſome Hints towards forming Prognoſtics of the Weather.* *By* RICHARD KIRWAN, *Eſq; F. R. S. and M. R. I. A.*

IN the firſt and rudeſt ſtage of ſociety the purſuits of mankind were neceſſarily confined to the means of ſupplying their primary wants. Where, by the progreſs of agriculture, a fixed mode of procuring this ſupply had been introduced, civilization gradually took place, and thence forward the general attention has been directed to procuring the comforts of human life; from this attention the various arts ſubſervient to their production have ariſen. Read Feb. 2, 1793.

THE arts themſelves being nothing elſe than an application of the laws of nature to *particular* caſes, it was ſoon found that a knowledge of theſe laws, independent of and abſtracted from any particular uſe, would render their application in various *other* caſes much more certain and eaſy than it could be under the guidance of blind and fortuitous experiment. Hence a connexion of ſome kind or other, whether real or imaginary, betwixt known facts, began to be traced, and thence the ſciences originated. With reſpect to *Meteorology*, the connexion of the different ſeaſons of the year with each other, and with the general ſtate of vegetables and animals, preſenting little or no variation, was diſcovered from the earlieſt times ; but the numerous modifications of each ſeaſon, whether of heat or cold, moiſture or dryneſs, though known to have ſome connexion with the preceding weather, yet not being connected with that ſingly, but with the recent and actual ſtate of the atmoſphere in the moſt diſtant countries, the order in which they preſent themſelves and ſucceed each other has hitherto in a great meaſure eluded all reſearch.

The deſire, however, of gaining the ſlighteſt view even of the ſhorteſt period of this ſucceſſion has been evermore ſo urgent, that ſome mode or other of divining it has always been adopted*. Theſe modes are either empyric, ſcientific or mixed. Of the empyric methods ſome are general, but vague, and uncertain for the moſt part; others topical and more certain, but varying with the place of obſervation. The ſcientific method, as yet in its infancy, is grounded on a long ſeries of obſervations accurately taken, of all the changes in the atmoſphere, from whence ſome general laws may at length be deduced.

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* See Pliny's Nat. Hiſt. Lib. 18. Cap. 35.

THIS method has been attempted by moſt of the learned ſocieties in Europe, though hitherto, for want of a more general and permanent eſtabliſhment, with inconſiderable ſucceſs.

THE Royal Iriſh Academy has not been wanting in its duty to the public and to ſcience in this reſpect; it has already provided at its own coſt, and diſperſed through the kingdom, ſome of the moſt uſeful and beſt conſtructed inſtruments; yet its wiſhes have not hitherto been completely anſwered, few obſervations having been communicated. Of theſe, and of my own made in Dublin, I ſhall now give a ſummary view.

1789.

DUBLIN lies in latitude 53° 21′. Long. 6° 5′ weſt of London.

THE winter months which preceded the commencement of this year were remarkably dry, no rain having fallen between the 3d and 18th of November. The barometer all the time ſtood above 30 inches; yet the weather could not be called cold until the 12th, when it grew clearer, and the thermometer at night was generally under 36°, the wind being moſtly at E. The 18th it grew milder but ſtill dry, there being ſcarce any rain until December the 13th, the wind being E. S. E. On the night of the 13th it blew a ſtorm at E. S. E. with ſnow;

after which the cold increaſed. On the night of the 15th the thermometer ſtood at 24°, and on that of the 17th at 22°; but on the 23d the wind came about to W. and the weather grew milder until the 26th, when it again blew a ſtorm at night, I believe from the E. the thermometer at night being 33°. The 27th and 28th it froze by day and thawed at night, and thus continued until January the 9th, when at night there was a heavy fall of ſnow with hail, thermometer 24°. The 11th much ſnow, barometer 29.66, thermometer 26°, and at night 15°, and ſo it was on the nights of the 12th and 13th. This *maximum* of cold was indicated by Six's thermometer. On the 13th there was a heavy fall of ſnow, and the barometer fell to 28.7, wind S. thermometer 35°. On the 15th a thaw, at night a ſtorm at *Weſt*, barometer next day 29.7. And on the night of the 19th an aurora borealis, which was ſucceeded on the night of the 21ſt by a ſtorm at S. or S. W.

HENCEFORWARD the ſeaſon was mild, but ſomewhat windy in ſome *weſterly point*, until *March the 5th*, when it began to blow from the *Eaſt* accompanied with ſnow, and continued ſo with ſome inclination to the *North* or *South* until the 14th.

ON the night of the 14th there were frequent ſqualls at S. E. after which the wind held a *ſoutherly* direction or *South Weſt* until the 22d, and then veered to the S. E. with rain.

ON the night of the 27th a great and beautiful aurora with the vertex in the zenith; ſucceeded on the 29th by a high wind at N. Thermometer at twelve o'clock 41°.

HENCEFORWARD the weather was moſtly dry until *April the 8th*, but afterwards wet and cold to May the 7th. On the 23d of April there was a ſtorm at W.

MAY 7th, fine. Thermometer the whole day at 64°, but after that the weather was various but moſtly wet, and at the end exceeding wet, until June the 10th; the wind being moſtly W. or S. W. and in June W. and N. W. On the 6th of June a ſtorm at night.

FROM June the 10th unto the 16th, fine and hot. Thermometer in the ſhade being 73°. Wind E. and S. E. On the night of the 16th rain, wind S. W.; and this wind predominated with uncommonly wet weather until July the 19th.

FROM July the 1ſt to the 13th it rained every day in ſhowers reſembling thunder ſhowers; even ſome diſtant thunder was heard. Yet the barometer held at 29.5 or 29.6 all along until July the 13th, when it roſe to 29.89.

JULY 19th and 20th moſtly dry, but the 22d it rained all day; on the 23d a heavy ſhower as if there was thunder, though none was heard. From this to Auguſt the 3d it rained every ſecond day; the barometer about 30, thermometer from 64° to 70°.

AUGUST the 3d my obſervations in Dublin were interrupted by a journey to the counties of Cavan, Leitrim, Sligo, Mayo and Galway. On the 7th, about ſixty-four miles N. W. of Dublin, I met a violent ſtorm with rain and ſome hail. From the 8th to the 12th there was ſcarce any rain, but variable weather thence to the 16th, and dry from that to the 21ſt. On the 16th an aurora borealis. After the 21ſt every ſecond day was wet until *September the 23d*, from which day until the 27th it rained only at night; wind conſtantly W. or S. W. On the 26th an aurora borealis, and a ſtorm accompanied with thunder, which laſted alſo the next day.

October the 4th, I reſumed my obſervations in Dublin. The weather was generally wet until the 22d, when the wind changed to the Eaſt for a few days, after which it again turned rainy until *November the 16th*. On the 14th a remarkable aurora borealis, after which ſucceeded a calm, each day alternately wet and dry until the 26th, when the wind ſtood at *North*, accompanied with a froſt which laſted until the 30th. On the 27th at night the thermometer was at 27°, wind high at *North Weſt*.

IN December the weather was moſtly fine until the 17th, when there was a violent ſtorm at *Weſt*, ſucceeded by a few days froſt. The 21ſt another ſtorm at *Weſt*, as alſo on the 27th and 30th, but the weather mild.

AT BELFAST.

BELFAST lies in latitude 54° 38′.

In *January* the weather agreed nearly with that in Dublin; here alſo the ſnow began on the night of the 9th. Barometer 29.755. On the 12th the thermometer was at 10°.5 at ten o'clock in the morning, and probably much lower at night. On the 15th at night there was a ſtorm at W. or S. W. The barometer, which was on that day at 29.15, was the next morning at 29.8, ſomewhat higher than in Dublin.

In *February* the weather was ſeverer than in Dublin.

In *March* the eaſterly wind did not begin here until the 6th, and grew ſqually on the 13th and 14th, as in Dublin.

In the beginning of *April* the weather was not ſo dry as in Dublin; the remainder of the month moſtly wet.

May more rainy than in Dublin. On the 7th it rained in the morning, and the thermometer was at 54° at ten o'clock in the morning.

In *June* alſo the weather was colder; from the 10th to the 15th moſtly fine, but the thermometer roſe no higher than 68°.

Observations on the remaining months have not as yet been received.

ATHLONE.

THIS town lies fifty miles due Weſt of Dublin, and nearly in the center of the kingdom.

THE obſervations taken here begin in May 1789, and the rainy days are for the moſt part omitted.

ON the 7th of May the height of the thermometer here was 56°, in Dublin 64°.

THE 12th thunder was heard here; none in Dublin or Belfaſt, but much rain.

June 1ſt, thunder both here and at Belfaſt; none noticed in Dublin.

JUNE 4th, a violent ſtorm both here and at Belfaſt; not violent in Dublin.

THE mean height of the barometer at Athlone during the month of May was 29.645, and that of the thermometer obſerved at eight o'clock in the morning and two in the afternoon 53°.7. At Belfaſt the mean height of the barometer was 29.951, and that of the thermometer obſerved only at ten o'clock in the morning 55°.

THE mean height of the barometer at Athlone in June was 29.765, and of the thermometer 57.19.

AT Belfaſt that of the barometer was 29.965, and of the thermometer 59.12.

THE mean of the morning obſervations at Athlone in the month of May was as to the barometer 29.630, and as to the thermometer 48°.9, and at ten o'clock we may ſuppoſe it 50°

BY calculating from theſe data Athlone lies 279 higher than Belfaſt.

BUT in the month of June the mean of the barometrical obſervations in the mornings gives 29.72 inches, and the mean of the thermometrical obſervations at eight in the morning 52.6, which at ten o'clock we may ſuppoſe 53.6.

CALCULATING from hence we have the height of Athlone over Belfaſt = 210 feet; perhaps the truth may be between both, and then the height of Athlone over the ſea ſhould be 244 feet. But obſervations of this ſort are generally taken too careleſsly to impreſs much confidence.

AT GALWAY.

THIS antient, once opulent and flouriſhing town lies about 12′ ſouth of Dublin on the weſtern coaſt of the kingdom. Its capacious bay, which opens to the weſt, occaſions a conſiderable indraught, while the Atlantic vapours are condenſed into rain on the neighbouring mountains.

THE weather was nearly the ſame here as in Dublin in the beginning of January, but there was no fall of ſnow until the 13th. Barometer 28.75. 16th barometer 29.62. Wind N. W.

March the 5th, wind Eaſt as in Dublin, but no ſnow.

12th and 15th, ſtorms at N. W. Squalls at S. W. on the 20th, and on the 29th a ſtorm at N. W. Thermometer at twelve o'clock 40.7. After which no rain until *April the* 10*th*, wind being either N. W. or S. E. and from the 10th to the 17th ſcarce any rain; but on the night of the 17th it rained heavily. On the night of the 22d a ſtorm at S.

May the 7th, gloomy. Thermometer 50°.4; the remainder of the month moſtly wet, yet not ſo wet as in Dublin.

June the 6th, a ſtorm at W. S. W. From the 10th to the 16th fair, but on the noon of the 16th heavy rain and thunder. Thermometer 60°.4. 22d, thunder with rain and hail. Wind W. Afterwards wet and windy until *July the 17th.* Barometer moſtly at 29.6 and 29.7. Wind ſhifting from S. E. to N. W. alternately. 19th and 20th, fair. 21ſt, diſtant thunder, but fair. 22d, fair. 24th, wet. The ſucceeding days fair, but on the 31ſt it rained.

Auguſt the 3d, ſlight rain, after which it was moſtly fair until the 24th, and then moſtly wet to the end. And here the obſervations cloſe for 1789.

AT LONDON.

I FIND by the metereological obſervations made at the houſe of the Royal Society that the barometer there alſo was 30 inches or above during the greateſt part of November 1788, with ſcarce any rain. Nor had they any rain during the whole month of *December*, nor any ſtorm until the 15th, and the wind with them was N. E. The ſnow did not reach them until the 17th. Their greateſt cold at eight o'clock in the morning was 18°, which happened twice, namely on the 18th and 30th. The ſtorm of the 26th was alſo felt there, and laſted the next day.

IN 1789 the ſnow began in London *January the 6th*, with a ſtorm at E. S. E.; the greateſt was January the 5th, ſix days earlier than with us. The thermometer ſtood at eight o'clock in the morning at 17°.5, and at two o'clock at 24°; whereas with us it roſe on that day to 28°. On the 13th the barometer ſtood at 29.1, and with us at 28.7. On the 15th it roſe to 29.23, but with us to 29.7, which height it did not attain in London until the following day It grew ſtormy at the ſame time as with us, and from the ſame points The N. and E. winds and dry weather began in London ſix or ſeven days ſooner than with us, namely *February the 28th*, and continued to *March the* 13*th*, when ſome ſnow fell as with us. The latter end of the month was colder than in Dublin.

THE beginning of *April* was attended with more rain than in Dublin, but from the 4th to the 16th it was drier; the remainder of the month was nearly equally wet in both places, but more ſtormy in London.

IN *May* the fair weather began the 5th, and laſted until the 15th, and the whole month much drier than with us, and warmer. On the 17th, 18th and 19th they had ſtorms at S. W.

June the 7*th*, a ſtorm at N. W. On the 11th the eaſterly winds began, which laſted with dry weather until the 19th, from which to the end of the month there were heavy and frequent rains. The 21ſt and 22d were ſtormy at S. and S. W.

IN *July* there were more fair days than with us; the barometer much higher; but on the 13th, the day on which it roſe with us to 29.89, it fell in London to 29.54, under an E. S E. wind, but which was immediately ſucceeded by a S. W. wind.

Auguſt was alſo drier than with us, and *eaſterly* winds more frequent.

September was more ſtormy here than in the *Weſt* of Ireland, and from the 5th to the 11th drier; from the 20th to the 28th ſcarce any rain, after which the weather was ſtormy to the 4th of October.

This month was moſtly wet until the 21ſt, and from that day to the 31ſt dry.

In *November* rains were frequent until the 19th. The 26th the wind was E. and there ſeems to have been ſome froſt the ſucceeding nights.

December was moſtly dry until the 20th, though the wind was generally W. S. or S. W. It grew ſtormy on the 15th, and ſo continued to the 18th, and afterwards continued ſo with ſhort intervals to the end. Theſe ſtorms were moſtly from the W. or S. W.

June and October were the moſt rainy months in London; each produced above three cubic inches, and the whole year 21.976. I have ſeen no account of the quantity fallen in Dublin, but I form no doubt but it was much greater.

The laſt month of 1788 and the firſt of 1789 were remarkably cold, as well on the Continent of Europe as in Great Britain and Ireland; and it has been obſerved that the cold was proportionably greater in the ſouthern than in the northern parts of Europe, which would induce one to think that the eaſterly winds which produced this cold proceeded from Tartary and the ſouthern parts of Siberia between the 55th and 40th degrees of latitude,

latitude. This would appear at times S. E. and again N. E. as it was nearer to either of the limits.

Of the Year 1790, *Dublin.*

January the 1ſt was a fine ſlight froſt, after which mild open weather ſucceeded until the 11th. On the 11th at night a ſtorm at S. W.

19th, froſt; wind N. but on the 21ſt changed to S. W. yet the weather continued fine and fair until the 25th. Thermometer at night 40°, and by day 55°, when there was a violent ſtorm at S. W. after which the weather was moſtly wet until February the 3d.

February the 3d, the barometer now roſe to 30.66, the air remarkably dry, though a ſouth wind prevailed. Thermometer moſtly 55°, barometer 30.55. It did not rain until the 10th, and then but little. On the night of the 11th a ſtorm at S. and another on the 16th and 17th, yet the air ſtill ſo warm that at two o'clock in the afternoon the thermometer was conſtantly at 54° or 55°. On the 18th it grew colder; thermometer at noon 40°. The 20th, wind N E. cold. At noon only 44°, every day fair and ſunſhine, and even warm; heat at two o'clock 55°, and ſo continued until the 25th. On the 25th at night a ſtorm at S. after which there were a few rainy days; thermometer at a medium 50° until March the 3d.

March the 4th, the eaſterly wind began, and continued with fine dry but cold weather until the 9th; thermometer at night 33°, and at noon 51°. 9th, high wind at Weſt, and ſome rain; but ſcarce any except at night from that day until the 24th. 13th, wind North. 17th, E. S. E. Thermometer in this interval 32° at night, and at noon 52°; barometer 30.6 and 30.8. 23d, cloudy, but dry. 24th, rain; wind S. S. W.; barometer 29.9. Hence until *April the 8th* no rain; wind E. and S. E. On the 2d I left Dublin. On the 8th a ſtorm at N. E. No rain until the 21ſt, on which day I returned to Dublin.

April the 22d, heavy rain; wind South, but not warm; thermometer at noon 46°. The rains continued with little intermiſſion until *May the 9th*; but from that day to the 15th dry, clear and ſunſhine; wind E. or N. E.; thermometer at noon 63° or 64°. From hence to the 29th wind ſhifted frequently; weather cloudy, wet and cold. 19th and 20th ſtormy, with rain and hail; yet the barometer ſtood higher than could be expected, moſtly between 29.8 and 30.3; thermometer at noon at a medium 54°. From the 29th of May to *June the 9th* moſtly dark but dry, with odd ſhowers; thermometer at a medium 58°, barometer 30. On the 9th heavy rain with hail. Hence to the 13th wind N. E.; barometer 30.2; thermometer at noon 66°, at night 50°. 14th, clear, hot; thermometer 70° at noon, at night 55°; barometer 30.3. It continued moderately fine, with little rain, until the 18th, and then it blew a violent gale at N. W. and the 19th at S. W. with rain. 20th and 21ſt, calm; thermometer 75° at two o'clock in the afternoon.

From

From the 24th to *July the 15th* it rained every day; thermometer by day no higher than 58°; wind moſtly S. or W.; and from that to the 19th not a day paſſed without a ſhower. July 19th a ſtorm at S. From June 26th to July 20th the mean heat was 65°, it being ſeldom below 60° but at night, and ſeldom above 70°.

From July 24th to the 28th fine and dry; the 27th I left Dublin.

Auguſt the 1ſt, heavy rain in Galway. 3d, 4th and 5th, dark and cloudy, but no rain; but from the 6th ſcarce a day paſſed without rain until the 24th. The 22d at night a ſtorm at S. W.; but from the 24th to the 30th moſtly dry, but cloudy; after which only ſlight ſhowers until *September the 4th*, which was fine; wind N. E. Thence to the 13th ſtormy; high winds and ſome rain to the 18th, on the night of which there was a violent ſtorm at S. W.; thence forward variable to the 27th; and from that day to October 11th moſtly dry, and ſo continued (the 11th and 12th excepted) until the 20th, when I reſumed my obſervations in Dublin. On the 20th a ſtorm at W. or W. S. W.; wet until the 23d, then fair to *November the 3d*, when there was ſome rain.

November the 4th, fine; wind N. W. and thus continued, with ſome froſt after the 13th (when the wind changed to the E.) to the 18th; barometer in this interval from 30 to 30.6. From the 18th to the 22d moſtly wet, but afterwards dry until the end of the month.

December the 1ſt, heavy rain and high wind at S. W. ſucceeded by variable weather, but moſtly dry, until the 10th, on the night of which there was a ſtorm at W. or S. W. The 11th and 12th, dry; wind N. W. 13th, wet; wind S. W. 14th, dry; at night a violent ſtorm at W. 15th a ſlight ſhower; thermometer 48°, barometer 28.9. The 16th, rain, and at night it blew hard at N. W.; ſome rain and ſnow. 17th, fine, as alſo the following days until the 23d, but ſtorms at S. W.; thermometer moſtly at 46°, barometer 29 3. 23d, wind W.; heavy rain at night. 24th and 25th, calm, no rain by day; thermometer 46°. 27th, fine; froze hard at night; thermometer 28°; and the ſame weather on the 28th. 29th, rain. 30th and 31ſt, fine; froſt at night; thermometer by day not below 42°.

Of the Signs of wet and dry Weather.

If metereological obſervations were taken at proper diſtances all over the globe, and with tolerable accuracy, they probably would in a few years diſcloſe that connexion which all the phænomena of the atmoſphere have with each other, and the particular ſpecies of weather which would take place in any given region might be foreſeen either to a certainty or at leaſt to a high degree of probability, but until this happens the only uſe of metereological tables, as far as regards the art of forming prognoſtics, is to exhibit a view of the ſort of weather that moſt uſually precedes *wet*, *dry*, *hot* or *cold* ſeaſons (theſe being the modifications moſt intereſting as well to agriculture as to medicine) and tracing their recurrency by the laws of probability.

bility. With us, however, theſe four ſpecies of weather may be reduced to two, as winters and ſprings if dry are moſt commonly cold, or warm if moiſt; and on the contrary, dry ſummers and autumns are uſually hot, and moiſt ſummers cold. The uſual mean heat of ſummer in thoſe parts of the kingdom that lie between latitude 52° 30′ and 53° 30′ is 58 degrees, as I believe, and of winter is 44°.

On peruſing a multitude of obſervations taken in England from 1677 to 1789 at different intervals, I find,

1ſt, That when there has been no ſtorm before or after the vernal equinox, the enſuing ſummer is generally *dry*, at leaſt five times in ſix.

2d, That when a ſtorm happens from any eaſterly point either on the 19th, 20th or 21ſt of March, the ſucceeding ſummer is generally *dry*, four times in five.

3d, That when a ſtorm ariſes on the 25th, 26th or 27th of March, and not before, in any point, the ſucceeding ſummer is generally *dry*, four times in five.

4th, If there be a ſtorm at S. W. or W. S W. on the 19th, 20th, 21ſt or 22d, the ſucceeding ſummer is generally *wet*, five times in ſix.

Again, I obſerve that it generally rains leſs in *March* than in *November* in the proportion at a medium of ſeven to twelve.

It generally rains leſs in *April* than in *October* in the proportion of one to two nearly at a medium; I believe it to be otherwiſe in Ireland.

It generally rains leſs in *May* than in *September;* the chances that it does ſo are at leaſt as four to three; but when it rains plentifully in *May* (as 1.8 inches or more) it generally rains but little in *September*; and when it rains one inch or leſs in May, it rains plentifully in September; this applies not only to England and Ireland, but alſo I believe to all the weſtern parts of Europe.

If we had tables of the quantities of rain that fall in each month for eighty or one hundred years, we might calculate the mean proportion of each, whether taken ſingly or in groups, and thence deduce the probable quantities of rain in the ſucceeding months; the table would every year grow more perfect, and in time approach very near the truth. But I have met no account of the quantities of rain that annually or monthly fall in Ireland, nor any account of the weather except that taken by the induſtrious Doctor Rutty with a view to medicine; his obſervations extend to forty-one years, but his eſtimations are merely vague and popular. However, I ſhall exhibit a view of them, and to ſhew how more accurate obſervations might be managed, deduce ſome conſequences from them.

Wet, *dry* and *variable* are denoted by the letters W. D. and V *.

THE *ſpring* begins with him in April, the *ſummer* with June, and the *autumn* with September.

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* The preciſe ſignification of theſe words might eaſily be had, by meaſuring the proportion of rain in each ſeaſon; but unfortunately this has not been done. However I ſhall endeavour to throw ſome light on this matter in another paper.

Table of the State of Spring, Summer and Autumn in Dublin from 1725 to 1765 incluſively.

Year.	Spring.	Summer.	Autumn.
1725	D.	W.	V.
1726	D.	V.	V.
1727	V.	V.	W.
1728	D.	W.	V.
1729	D.	D.	W.
1730	V.	W.	V.
1731	D.	D.	V.
1732	V.	D.	W.
1733	D.	D.	W.
1734	V.	W.	V.
1735	V.	WW.	W.
1736	V.	DD.	D.
1737	D.	D.	D.
1738	V.	W.	W.
1739	W.	W.	V.
1740	D.	D.	W.
1741	DD.	D.	V.
1742	D.	D.	V.
1743	V.	D.	V.
1744	D.	V.	W.
1745	D.	W.	V.
1746	D.	W.	V.
1747	D.	D.	D.
1748	V.	D.	D.
1749	W.	V.	D.
1750	D.	W.	V.
1751	W.	W.	V.
1752	D.	WW.	D.
1753	W.	W.	D.
1754	V.	W.	D.
1755	W.	W.	W.
1756	V.	W.	V.
1757	W.	W.	D.
1758	D.	W.	D.
1759	D.	DD.	D.
1760	D.	V.	W.
1761	D.	DD.	V.
1762	D.	D.	W.
1763	V.	W.	V.
1764	D.	W.	V.
1765	V.	DD.	V.

HENCE we ſee that in forty-one years there were,
6 wet *Springs*, 22 dry, and 13 variable.
20 wet *Summers*, 16 dry, and 5 variable.
11 wet *Autumns*, 11 dry, and 19 variable.

A *dry Spring* has been followed by	A dry Summer	11 times.
	A wet	8
	A variable	3
A *wet Spring* has been followed by	A dry Summer	0
	A wet	5
	A variable	1
A *variable Spring* has been followed by	A dry Summer	5
	A wet	7
	A variable	1
A *dry Summer* has been followed by	A dry Autumn	5
	A wet	5
	A variable	6
A *wet Summer* has been followed by	A dry Autumn	5
	A wet	3
	A variable	12
A *variable Summer* has been followed by	A dry Autumn	1
	A wet	3
	A variable	1

* HENCE in the beginning of any year,

I. The probability of a *dry Spring* is - $\frac{22}{41}$
of a wet - - $\frac{6}{41}$
of a variable - - $\frac{13}{41}$

II. The probability of a *dry Summer* is - $\frac{16}{41}$
of a wet - - $\frac{20}{41}$
of a variable - - $\frac{5}{41}$

III. The probability of a *dry Autumn* is - $\frac{11}{41}$
of a wet - - $\frac{11}{41}$
of a variable - - $\frac{19}{41}$

IV.
After a dry Spring the probability of
A dry Summer is - $\frac{1}{22}$
A wet - - $\frac{8}{22}$
A variable - $\frac{3}{22}$

V.
After a wet Spring the probability of
A dry Summer is - 0
A wet - - $\frac{5}{6}$
A variable - $\frac{1}{6}$

VI.
After a variable Spring the probability of
A dry Summer is - $\frac{5}{13}$
A wet - - $\frac{7}{13}$
A variable - $\frac{1}{13}$

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* Theſe rules relate chiefly to the climate of Ireland.

VII.

After a dry Summer the probability of	A dry Autumn is	$\frac{5}{16}$
	A wet - -	$\frac{5}{16}$
	A variable -	$\frac{6}{16}$

VIII.

After a wet Summer the probability of	A dry Autumn is	$\frac{5}{20}$
	A wet - -	$\frac{3}{20}$
	A variable -	$\frac{12}{20}$

IX.

After a variable Summer the probability of	A dry Autumn is -	$\frac{1}{5}$
	A wet - -	$\frac{3}{5}$
	A variable -	$\frac{1}{5}$

BUT the probability of the autumnal weather will be attained much more perfectly by taking in the conſideration of the preceding Spring alſo; in order to which we may obſerve that,

A *dry Spring and dry Summer* were followed by a	Dry Autumn	3 times.
	Wet -	4
	Variable -	4

A *dry Spring and wet Summer* were followed by a	Dry Autumn	2
	Wet - -	0
	Variable -	6

A *wet Spring and dry Summer* were followed by a	Dry Autumn	0
	Wet - -	0
	Variable -	0

A *wet*

A *wet Spring and wet Summer* were followed by a	Dry Autumn	2 times.
	Wet - -	1
	Variable -	2
A *wet Spring and variable Summer* were followed by a	Dry Autumn	1
	Wet - -	0
	Variable -	0
A *dry Spring and variable Summer* were followed by a	Dry Autumn	0
	Wet - -	2
	Variable -	1
A *variable Spring and dry Summer* were followed by a	Dry Autumn	2
	Wet - -	0
	Variable -	2
A *variable Spring and wet Summer* were followed by a	Dry Autumn	1
	Wet - -	1
	Variable -	5
A *variable Spring and variable Summer* were followed by a	Dry Autumn	0
	Wet - -	1
	Variable -	0

X. HENCE after a *dry Spring and dry Summer* the probability of a
Dry Autumn is - $\frac{3}{11}$
Wet - - $\frac{4}{11}$
Variable - - $\frac{4}{11}$

XI. After a *dry Spring and wet Summer* the probability of a
Dry Autumn - $\frac{2}{8}$
Wet - - $\frac{0}{41}$
Variable - - $\frac{6}{8}$

XII. After a *dry Spring and variable Summer* the probability of a
Dry Autumn - $\frac{0}{0}$
Wet - - $\frac{2}{3}$
Variable - - $\frac{1}{3}$

XIII. After a *wet Spring and dry Summer* the probability of a
Dry Autumn - $\frac{0}{41}$
Wet - - $\frac{0}{41}$
Variable - - $\frac{0}{41}$

XIV. After a *wet Spring and wet Summer* the probability of a
Dry Autumn - $\frac{2}{5}$
Wet - - $\frac{1}{5}$
Variable - - $\frac{2}{5}$

XV. After a *wet Spring and variable Summer* the probability of a
Dry Autumn - $\frac{1}{41}$
Wet - - $\frac{0}{41}$
Variable - - $\frac{0}{41}$

XVI. After a *variable Spring and a dry Summer* the probability of a
Dry Autumn - $\frac{2}{4}$
Wet - - $\frac{0}{41}$
Variable - - $\frac{2}{4}$

XVII. After *a variable Spring and a wet Summer* the probability of a
Dry Autumn is - $\frac{1}{7}$
Wet - - $\frac{1}{7}$
Variable - - $\frac{5}{7}$

XVIII. After *a variable Spring and a variable Summer* the probability of a
Dry Autumn - $\frac{0}{41}$
Wet - - $\frac{1}{41}$
Variable - $\frac{0}{40}$